

^a SOME ACCOUNT OF THE BIRDS OF SOUTHERN
GREENLAND, FROM THE MSS. OF
A. HAGERUP.

EDITED BY MONTAGUE CHAMBERLAIN.

THE MINING village of Ivigtut, where Mr. Hagerup was residing when he made the observations which are recorded in these notes, is situated on the southern shore of Arsuk Fjord, Greenland, in latitude $61^{\circ} 12'$, and longitude $48^{\circ} 10'$. Arsuk Fjord is about two English miles in breadth, and is walled by cliffs, which rise abruptly from the water to the height of 1,000 to 1,500 Danish feet, one peak—Mount Kunnak—towering up some 4,400 feet. These cliffs are broken at intervals by small valleys down which streams of water find their way to the sea. Trout are abundant in the streams, and the banks are deeply fringed with low bushes of willow and alder. (The tallest and largest bushes are found close to the fields of eternal ice, at the head of the fjord.) In one of these valleys lies Ivigtut, close by the shore of the fjord.

During the summer months four species of singing birds are found in the vicinity of Ivigtut. Around the houses in the village Redpolls are numerous, and the moist spots near by are tenanted by Lapland Longspurs, while the stony places are selected as building sites by Snowflakes and Wheatears. A few pairs of Mallard Ducks also breed in the neighborhood each season. On climbing the sides of the adjacent hills Snowflakes and Wheatears are met with, as well as a few Ptarmigan and an occasional solitary Raven or Eagle.

In winter the only birds seen on the land are Ptarmigan, Ravens, Eagles, and Falcons, and these, with the hare and Arctic fox, are the only animals seen on the land during the colder months. The reindeer lived on the highlands above the fjord at an earlier period, but now is not found nearer than thirty miles to the northward.

It is the fjord which is at all seasons best furnished with animal life. There an occasional white bear may be encountered—carried in by the 'big ice,'—and several forms of whale, even those of the largest species, are frequent visitors, as are, also, numerous

seals. In summer the Gulls, and in winter Eiders and Auks predominate, of the seafoal that seek food there. Near to the mouth of the fjord, where the walls are especially high and steep, Gulls breed in large colonies—some numbering several thousand.

Amid the adjacent hills lie numerous lakes where Gulls might be supposed to make their nests, but in a careful survey of several suitable localities no evidence was discovered that the Gulls ever visit these inland waters. Mr. Hagerup considers that this neglect of such apparently favorable nesting ground may be attributed partly to the presence of foxes, and partly to the continuous pursuit of the birds by the native Greenlanders and the Danes. Another cause may be found in the fact that lakes at a higher altitude than 700 feet above sea level are not free of ice before the first of July. Along the margins of these highland lakes are thin fringes of stunted vegetation, and in their depths swarm schools of trout that feast during the summer upon larvæ of the mosquito which abound there.

The mean temperature of Ivigtut for the three coldest months of the year is -5° C., and for the three warmest months, 7° C. The lowest point registered by the thermometer during the winter of 1886-87 was -28° C., and the highest temperature during the summer following was 21° C. The mean temperature of January, 1887, was -12° C. The rainfall aggregates $35\frac{1}{2}$ inches in a year.

Arsuk Fjord was covered with ice on November 19, 1886, but during the winter the southeastern gales (which are numerous at that season, and are often accompanied by warm rains) broke off large flakes from the seaward margin of the ice, and as ice did not form again on the places thus opened, the result was that the ice-covered portion of the fjord was continually being diminished, even while the mean temperature was becoming lower. The upper section of the fjord was not free from ice until the first days of June, the date that usually finds the leaves opening on the willow bushes. By the 10th of September these leaves are bleached by the night frosts.

Urinator imber. LOON.—This species is a not uncommon summer visitor, breeding in suitable places. In 1886 the first examples were seen on May 22, and in the autumn the last was seen on November 18, when the fjord was partly covered with ice. In 1887 the first spring arrival was seen on May 5—a young bird, which was shot. Mr. Hagerup thinks it improbable that this species breeds at a greater height than 700 feet, or,

at the utmost, 1000 feet, because the lakes at that altitude are only three months or less free from ice. During June examples are frequently seen on the fjord. Pairs and single birds are often seen flying at a very great height in the air, uttering their loud harsh cry. Several clutches of eggs have been obtained from the natives, one of which was taken on July 20, 1884, near Julianshaab, in latitude 66° N.

Urinator lumme. RED-THROATED DIVER.—This is a summer visitor, but is not common. The first spring arrivals were noted in 1886 on May 28, and in 1887 on May 24. Clutches of eggs have been obtained at various dates from June 15 to July 9. One taken on June 26, near Godthaab, contained a nearly full grown chick.

Fratercula arctica. PUFFIN.—Accidental. One was harpooned near Arsuk on July 15, 1887.

Cephus grylle. BLACK GUILLEMOT.—A common resident. The color of the plumage changes in April. On April 8 some specimens were nearly black, but the greater number were not quite as dark as a female Eider. The eggs are laid in June.

Uria lomvia. BRÜNNICH'S MURRE.—An abundant winter visitor, appearing on the fjord in flocks of one hundred to a thousand birds. They are generally found swimming over very deep water, much deeper than that upon which the Eiders gather,—too deep to admit of their going to the bottom for food. When approached they usually escape by swimming or diving, and but seldom take to the wing. They are very fond of sitting near the edge of the ice, but are never seen to stand while resting either on the ice or land.

In the autumn of 1886 the first comers were observed on November 9, and during the following day large numbers appeared. On April 16, 1887, they were yet numerous, though somewhat diminished, but by the 25th of that month the greater part had left. A few remained through May, and on the fourth day of June some groups of two to five individuals were observed. In 1886 the last small flocks, numbering twenty to thirty, were seen on May 30.

Alle alle. DOVEKIE.—A winter visitant: not numerous near Ivigtut, but more common in the vicinity of Arsuk, at the mouth of the fjord. On January 16, 1887, two examples were shot from the edge of the ice, and at the same time sixty-five examples of Brünnich's Murre were secured, and this will give the reader a fair idea of the relative abundance of the two species.

Stercorarius parasiticus. PARASITIC JAEGER.—This species is said to have been observed occasionally in this vicinity, and is reported as breeding in Greenland.

Gavia alba. IVORY GULL.—Mr. Hagerup has examined two skins of adult specimens, and one of a young bird, which were said to have been taken near Ivigtut several years ago.

Rissa tridactyla. KITTIWAKE.—An abundant summer resident; appearing about March 26, and remaining until October. A few have been seen as late as October 23.

In autumn these birds depart very gradually, but in spring they return in large flocks, and at times the entire colony appears together. On first arriving they settle in the central portions of the fjord, and are always seen in compact groups, whether on the land or water. They are at that season extremely shy, but this shyness lessens as the mating season advances, and then, also, the flocks separate, and during the latter part of April and in May they fly off in small parties or in pairs. On the first day of June, 1887, the fjord below their nesting place was covered with ice, although at that date in 1886 the birds had begun to lay. Some fifteen hundred to two thousand pairs build on a cliff near the mouth of Arsuk Fjord, their nests being placed between two feet and one hundred feet from the water's edge—far below the nests of the Iceland Gull on the same cliff.

During April the Kittiwakes are often observed to leave their feeding place—on the open water, which at that season is some six miles away from their nesting ground,—and rising to a considerable height in the air, fly to the cliff on which they build, and after circling over this spot for a time, as if reconnoitring, uttering their harsh cry all the while, they return again to the water. When flying alone, or in small parties, they are usually silent, but when in large flocks, during the spring or when gathered about their nesting site, or at some unusually fine feast—such as the carcass of a whale—they continually utter a loud harsh cry which, at times, becomes almost a shriek. There is a decided similarity between the cry of the Kittiwake and that of the Gull-billed Tern, and the eggs of these two birds are, also, much alike.

On July 7, 1887, Mr. Hagerup saw an iceberg which served as a resting place for several hundred young Gulls—Kittiwakes, Glaucous Gulls, Iceland Gulls, and Great Black-backed. Several adult Kittiwakes and Iceland Gulls were with the party. As usual the Kittiwakes were on the lower portion of the berg, nearest the water's edge, the different species being sharply separated.

When the fjord is visited by whales the Gulls follow close in their wake and gather in the small animals the whales drive toward the surface.

Larus glaucus. GLAUCOUS GULL.—This is a very common species, and might be called a resident, for even during the coldest weather some individuals are seen daily near the open water, though the examples occurring in midwinter are usually young birds. During March and April, when the Eiders appear in flocks near the coast and feed on mussels which they dive to the bottom for, these Gulls may be observed swimming or flying amid the Eiders, and as soon as a Duck comes to the surface with a mussel, a Gull will make an effort to secure it.

An adult bird, the first of the season, shot on March 20, 1887, was in perfect summer plumage.

The principal breeding place of this Gull in the vicinity of Ivigtut is close by the open sea, near the mouth of the fjord, where they congregate in considerable numbers. In August the young birds assemble in the fjord, especially near the narrow channels, as at Karsuk and Ellerslie, and

feed during that month and the next on the berries of *Empetrum nigrum*. At that season they are easily shot, and their flesh is of a very savory flavor. The breasts of the young of all species of Gull are eaten here as a delicacy.

Larus leucopterus. ICELAND GULL.—This species is abundant in summer, and probably some individuals, young birds perhaps, remain during the entire year; but as no examples have been secured in the winter season, and as these gray Gulls are silent at that time, it is possible that all those observed in winter have been Glaucous Gulls.

In March the Iceland Gulls arrive from the south. In 1887, the first, a flock of several hundred, were seen on March 16, and ten days later another flock of similar size put in an appearance. About a thousand pairs usually breed on a cliff which overlooks the fjord, a short distance above Ivigtut. The nests are placed on the top of this cliff, about 2500 feet above the water. Young birds, fully fledged were found here on July 23. The young are frequently seen in company with the young of the Glaucous Gull.

Larus marinus. GREAT BLACK-BACKED GULL.—This species is not numerous, and though partially resident, is most abundant during the latter part of the autumn.

Fulmarus glacialis. FULMAR.—Mr. Hagerup reports having seen this species daily, on the voyage out from Denmark. It was first observed off the Shetland Islands, and was last seen within a few miles from the shores of Greenland. It has not been met with near Ivigtut. The birds met with in mid-ocean were almost entirely white, but on approaching the eastern shores examples of a dark sootish color were seen mingled with the light colored birds.

Oceanodroma leucorhoa. LEACH'S PETREL.—A few examples have been seen near the mouth of the fjord.

Phalacrocorax carbo. CORMORANT.—This is a winter visitor and though it is seldom seen as far up the fjord as Ivigtut, is quite common near Arsuk which lies closer to the ocean. On the first of April many were still near their winter quarters, and on the 12th of that month four specimens were taken.

The skins of this bird and of the Loon are used in Denmark for ladies' muffs, etc.

Merganser serrator. RED-BREASTED MERGANSER.—Mr. Hagerup considers this a resident species, and reports taking examples in February, April, May, November, and December, though it is most abundant in April and May.

Anas boschas. MALLARD.—A rather common bird. In the immediate vicinity of Ivigtut it is most numerous during the winter months, when small flocks gather on the fjord, keeping close to the shore. A few pairs breed in Ivigtut valley. Two nests with fresh eggs were found there on June 27, 1886, and on June 26, 1887, two ducklings were captured, one in the harbor and the other in the village. They were only three or four days old, and must have been brought down the stream by the parent birds. An

attempt to rear them by hand proved a failure, but the roasting which marked the close of said failure provided an opportunity for testing the flavor of their flesh, which was pronounced delicious.

Glaucionetta islandica. BARROW'S GOLDEN-EYE.—A male of this species was shot near Ivigtut on March 23, 1887, and on April 4 a male and female were seen, but it must be rare here, for neither the Danes nor the Eskimos had seen the birds before.

Clangula hyemalis. OLD-SQUAW.—This species is probably a resident, as it is numerous near Arsuk during the winter. It seldom goes so far up the fjord as Ivigtut, though examples were shot in that neighborhood on March 1, and April 15, 1887.

Histrionicus histrionicus. HARLEQUIN DUCK.—This is a summer resident, and probably breeds in the vicinity of Arsuk Fjord. Mr. Hagerup has taken examples in November and March.

Somateria mollissima borealis. GREENLAND EIDER.—This is a resident and very abundant. Near Ivigtut it occurs during the winter months only, retiring in the breeding season to the small islands near the mouth of the fjord and along the open sea. As the autumn approaches, single birds are seen approaching the fjord; following these are small flocks of twenty or more, and the size of the flocks gradually grows larger until by the middle of December they number several hundreds, and the throng increases as the open water is extended up the fjord by the winter thaws. Mr. Hagerup reports that the birds which go up the fjord during the early part of the winter are females only. He had a good opportunity to examine the flocks, but did not find any males among them until March 11, and then only a few could be discovered, and it was not until the latter part of April that the males appeared in large numbers.

The flocks leave the inland waters for their breeding ground usually about the first week in May, though even into June small flocks remain. These loiterers are mostly females. In 1886 the last flock observed near Ivigtut left there on May 28, but a flock of over fifty, of which very few were males, was seen on June 14, 1887. At that time the 'big ice' surrounded some of their principal breeding grounds, which may account for the birds lingering so late in the fjord. Sets of eggs were taken on June 24 and 29, 1886, and on July 3, 1887.

Somateria spectabilis. KING EIDER.—A winter resident and quite numerous. Mr. Hagerup thinks that possibly the ice on the fjord prevented this species from being observed during the early part of the winter, but it was not until February 1, 1887, that any were seen, and then only one—a male—that was shot near Arsuk. The first to appear off Ivigtut were two males that were captured on February 4, but on the 12th several were seen, males as well as females, and then their numbers rapidly increased for a time. Between the middle of February and the middle of March there were more of the present species than of the common Eider in the fjord, but from the latter date *spectabilis* decreased in numbers, while *borealis* increased, until by April 7 there were not more than one *spectabilis* to twenty *borealis*, and a week later the proportions were about

one to forty. The last adult male King Eider seen in the vicinity was shot on April 23. This species is more frequently observed to stand on the edge of the ice, than is the common Greenland form. The knob on the bill of one shot March 26, 1887, measured 42 mm. in height, and 24 mm. in breadth.

Porzana porzana. SPOTTED CRAKE.—One specimen of this form is said to have been shot near Frederickshaab some years ago.

Tringa maritima. PURPLE SANDPIPER.—This species is common in winter and some breed in the near vicinity, though its principal breeding ground in this section is much further north. It appears on the shores of the fjord early in October, and is seen during the entire winter among the seaweed which is laid bare by the receding water. Three examples were observed on June 4, 1887.

Numenius phaeopus. WHIMBREL.—An example of this species was shot near Arsuk on May 25, 1887.

Charadrius apricarius. GOLDEN PLOVER.—The Director of the colony at Frederickshaab reports taking a young bird of this species in August, 1887. Several adults have been taken in southern Greenland, but no nests have been discovered.

Ægialitis hiaticula. RING PLOVER.—This species was observed on August 15, 1886, near a shallow lake about 1100 feet above sea level. A nest and eggs were found near Godhaven on June 14, 1880.

Lagopus rupestris reinhardtii. REINHARDT'S PTARMIGAN.—A resident, but most numerous in winter when flocks come from the north. During the coldest weather it frequents the sides of the lower hills, but in summer is found chiefly at a greater height. Mr. Hagerup reports that very few were found in the vicinity of Ivigtut during the winter of 1886-87. He frequently returned from shooting excursions without having seen one, though in previous seasons as many as three or four hundred had been taken. The birds are rarely met with down in the valley, but on Christmas Day, 1886, some fifty were taken close by Ivigtut.

On June 20, 1886, at about 1000 feet from sea level, a male was taken in perfect winter dress, and on June 28, 1887, a pair were taken that had more white than color in their plumage, the upper parts about two thirds white and the lower parts almost entirely white (or yellowish white). On July 10 a pair were seen that had white only on the belly, and ten days later, at about 1300 feet above the sea, a female and young chicks were met with—the parent in full summer dress. The mother was very solicitous for her young, and in striving to draw attention from them came so near she might have been struck with a walking stick. She continually gave utterance to a guttural cry, which the young answered by pipings much similar to those of a domestic chick. Though quite small the chicks could run nearly as fast as a man, and understood perfectly how to hide in the grass. On the same day, at about 1200 feet, a pair were encountered that seemed, from their behavior, to have lost their young—the appearance of a fox in the neighborhood suggested the cause of their distress. The

female of this pair was in perfect summer dress, but the male had a deal of white on his under parts.

By the middle of October the majority of these birds are in perfect winter costume. Their numbers are kept reduced by their foes—man, fox, Raven, and Falcon.

(To be continued.)

NOTES ON WEST INDIAN BIRDS.

BY CHARLES B. CORY.

A CAREFUL comparison of a large series of specimens representing the genus *Bellona* tends to show that *Bellona exilis* (with slight variations) occurs as far south as St. Lucia, or St. Vincent, if we do not recognize *B. ornatus* from that island. A series of the so-called *B. ornatus* from St. Vincent, now before me, shows the blue coloration of the terminal portion of the crest to be quite constant. Some specimens from the northern islands approach it, although none are quite so highly colored. The blue color on the crest of *B. cristata* has a strong purple tint in some lights. Assuming that *B. ornatus* represents a fairly good insular form, we have

Bellona exilis (Gmel.). — Porto Rico, St. Thomas, St. Croix, Saba, St. Kitts, St. Bartholemew, Montserrat, Nevis, Dominica, Marie-Galante, Desirade, Grand-Terre, Guadeloupe, St. Lucia, and Martinique.

Bellona ornatus (Gould).—St. Vincent.

Bellona cristata (Linn.).—Grenada and Barbadoes.

In 'Birds of the West Indies' I have given *B. cristata* from St. Lucia, Martinique, and St. Bartholomew, as it was recorded from those islands by other writers. It is probable that *B. cristata* is restricted to the islands of Grenada and Barbadoes.

Volatinia splendens (Vieill.).

This species is given in the 'Birds of the West Indies' as *Volatinia jacarina* (Linn.), the error being caused by my being